

manifest to discern the impressions upon these wales, left by those that were prest upon them, which lying not exactly parallel with them, but a little athwart them, as is denoted by the lines of *o o o o, gh, gh, gh*, between which the other wales did lie parallel; they are so variously, and irregularly creas'd that being put into that shape when wet, and kept so till they be drie, they so set each others threads, that the Moldings remain almost as long as the Stuff lasts.

Hence it may appear to any one that attentively considers the Figure, why the parts of the wale *a, a, a, a, a, a*, should appear bright; and why the parts *b, b, b, b, b*, should appear shadowed, or dark; why some, as *d, d, d, d, d*, should appear partly light, and partly dark: the varieties of which reflections and shadows are the only cause of the appearance of watering in Silks, or any other kind of Stuffs.

From the variety of reflection, may also be deduc'd the cause why a small breez or gale of wind ruffling the surface of a smooth water, makes it appear black; as also, on the other side, why the smoothing or burnishing the surface of whitened Silver makes it look black; and multitudes of other phenomena might hereby be solv'd, which are too many to be here insisted on.

#### Observ. VI. Of small Glass Canes.

Schem. 4.

**T**Hat I might be satisfi'd, whether it were not possible to make an Artificial pore as small as any Natural I had yet found, I made several attempts with small glass pipes, melted in the flame of a Lamp, and then very suddenly drawn out into a great length. And, by that means, without much difficulty, I was able to draw some almost as small as a Cobweb, which yet, with the Microscope, I could plainly perceive to be perforated, both by looking on the ends of it, and by looking on it against the light; which was much the easier way to determine whether it were solid or perforated; for, taking a small pipe of glass, and closing one end of it, then filling it half full of water, and holding it against the light, I could, by this means, very easily find what was the differing aspect of a solid and a perforated piece of glass; and so easily distinguish, without seeing either end, whether any Cylinder of glass I look'd on, were a solid stick, or a hollow cane. And by this means, I could also presently judge of any small filament of glass, whether it were hollow or not, which would have been exceeding tedious to examine by looking on the end. And many such like ways I was fain to make use of, in the examining of divers other particulars related in this Book, which would have been no easie task to have determined meerly by the more common way of looking on, or viewing the Object. For, if we consider first, the very faint light wherewith the object is enlightened, whence many particles appear opacous, which when more enlightned, appear very transparent, so that I was fain to determine its transparency by one glass, and its texture by another. Next, the unmanageableness of most Objects, by reason of